

## ***Coelachne madayensis* (Poaceae: Pooideae: Isachneae), a new species from Kerala, India**

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**ABSTRACT.** A new species of *Coelachne* (Poaceae: Pooideae: Isachneae) from Madayippara in the Kannur District of Northern Kerala, India is described and illustrated. A key for the identification of the Indian congeners is provided.

**Keywords.** *Coelachne*, India, Kerala, Poaceae

### **Introduction**

The genus *Coelachne* R.Br. (Poaceae: Pooideae: Isachneae) is represented by 10 species distributed in the tropics and subtropics of the Old World (Mabberley, 2008; Clayton et al. 2006+). In India the genus is represented by 3 species, of which one species and one variety are endemic (Prakash & Jain 1984). In Kerala there are 2 species, viz. *Coelachne infirma* Buse [syn. *C. simpliciuscula* (Wight & Arn. ex Steud.) Munro ex Benth.] and *C. perpusilla* (Arn. ex Steud.) Thwaites, which usually occur in wet places (Sreekumar & Nair 1991).

During a floristic survey in July 2011 of the lateritic plateau habitats of Northern Kerala, India, the first two authors noticed a population of a very small species of *Coelachne* in the shallow seasonal pools and nearby wet areas. The specimens turned out not to belong to any described species of *Coelachne*, though they showed some similarity with the Indian species *C. minuta* Bor in their general habit, size, and organization of the spikelets. However, they differed in their non-tufted habit, absence of a ligule, ovate leafblades, flagleaves without a blade, racemes with up to 15 spikelets, lower florets with 0-nerved glumes and paleas, and 3 stamens. Therefore they are here described as a new species.

***Coelachne madayensis* Pramod & Pradeep, sp. nov.**

*Coelachnae minutae similis in habitu generali magnitudineque spicularum structura, sed habitu non caespitoso, foliorum laminis ovatis sine ligula, ultimis lamina carentibus, racemis paucispiculatis, glumis paleisque avenis, staminibus 3 differt.* TYPE: India, South India, Kannur District, Madayippara, alt. 36 m, 12°1.792'N 75°15.246'E, 25 July 2011, Pramod & Pradeep CU126681 (holo K; iso BRIT, CALI, SING). (Fig. 1)

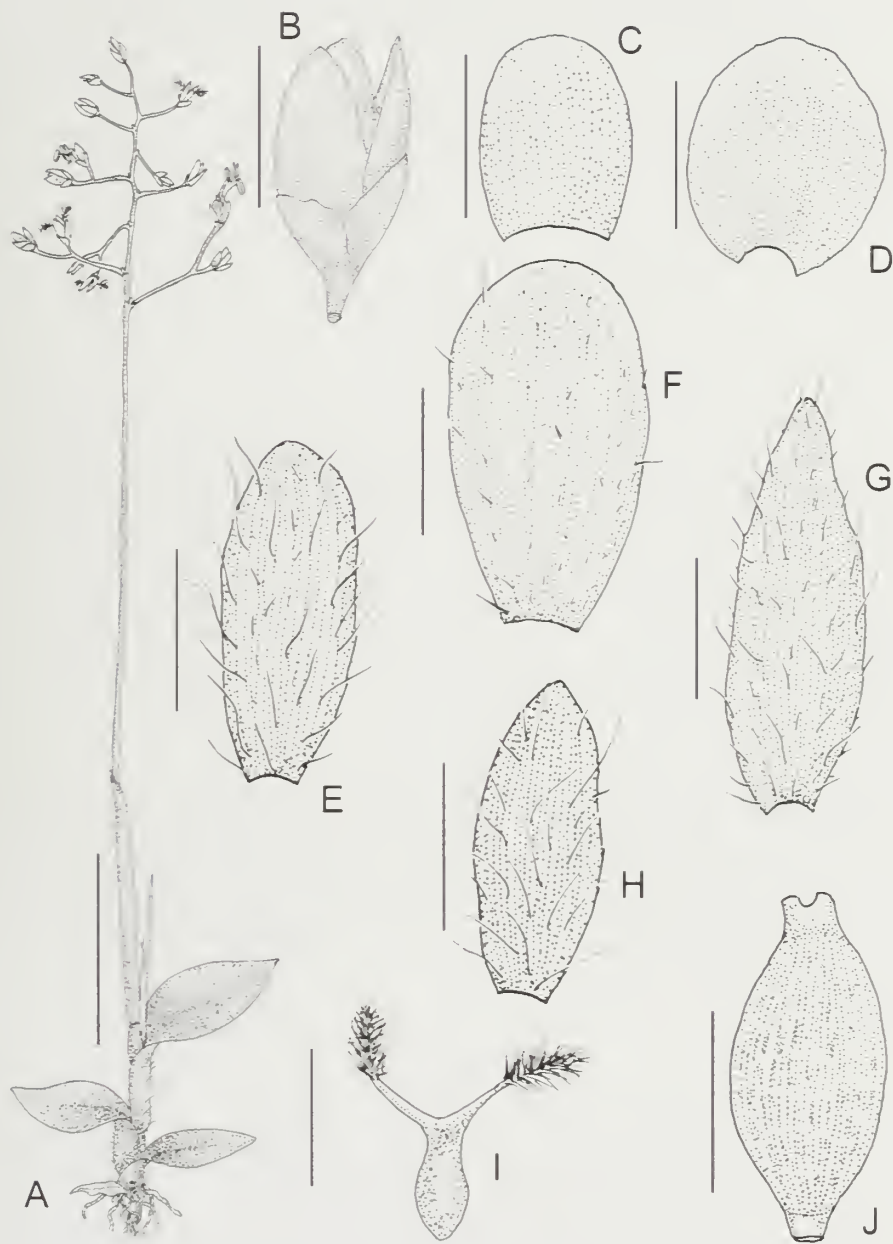
Erect aquatic herb, 3–8 cm high, rooting at the lower nodes. **Culm** canaliculate, internodes 3–5 mm long, glabrous, nodes glabrous. **Sheaths** up to 6 mm long, as long as or shorter than the internodes, laxly clasping the culm, distinctly striate, sparsely hispid (especially on the midrib); **ligule** absent; **blades** ovate, 0.8–1.2 × 0.5–0.6 mm, 7–15-nerved, glabrous above, puberulous below, base cordate, margin at base ciliate, apex acute; **flagleaf** sheaths 1–3 cm long, glabrous, margins hyaline, apex pointed, blade absent. **Panicles** 3–6 cm long; branches up to 8 mm long, with gland-like swellings at base. **Spikelets** up to 15, 1–3 per branch, elliptic, 1–1.5 × 0.5–0.7 mm; purplish. **Glumes** ovate, purplish, margins hyaline; lower glume c. 0.75 × 0.5 mm, purplish; upper glume, 0.9 × 0.5 mm. **Lower** lemma lanceolate, 1.5 × 0.5 mm, 0-nerved, purplish, margins hyaline, margins and upper surface pilose. Palea boat-shaped, c. 1.25 × 0.8 mm × c. 0.5 mm, deep purplish, margins hyaline, 0-nerved, upper surface pilose. **Stamens** 3; anthers 1.25 × 0.5 mm, greenish white. **Style** forked, hyaline, stigma plumose. **Upper floret** tufted cottony hairy at base, c. 1.5 × 0.5 mm, purplish. Lemma boat-shaped, c. 1.2 × 0.5 mm, 0-nerved, pilose, purplish, margins hyaline. Palea slightly shorter than lemma, boat-shaped, c. 1 × 0.5 mm, purplish, margins hyaline. **Caryopses** ellipsoid, c. 1 × 0.5 mm, deep purplish, glabrous, shiny.

**Ecology.** The species is found growing in shallow seasonal pools and nearby wet areas along with, e.g., *Eriocaulon* spp., *Fimbristylis* sp., *Geissaspis cristata* Wight & Arn. var. *tenella* (Benth.) M.R.Almeida, *Isachne veldkampii* K.G.Bhatt & Nagendran, *Rhamphicarpa longiflora* Benth., *Rotala malabarica* Pradeep, K.T.Joseph & Sivar., *R. malampuzhensis* R.V.Nair ex C.D.K.Cook, and *Utricularia* spp. Usually the panicle alone is seen emerging from the water.

**Etymology.** The new species is named after its type locality, Madayippara in the Kannur District of Kerala, India.

Key to the Indian taxa of *Coelachne*  
(Prakash & Jain, 1984, modified)

- 1a. Culms erect. Spikelets 1–1.5 mm long ..... 2
- b. Culms ascending. Spikelets over 1.5 mm long ..... 3



**Fig. 1.** *Coelachne madayensis* Pramod & Pradeep. A. Habit. B. Spikelet. C. Lower glume. D. Upper glume. E. Lower lemma. F. Lower palea. G. Upper lemma. H. Upper palea. I. Pistil. J. Caryopsis. Scale bars: A = 1 cm; B = 1 mm; C–J = 0.5 mm. (Drawn by C. Pramod)

- 2a. Culms not tufted. Sheaths laxly clasping the culm. Ligule absent. Blades ovate. Flagleaf bladeless. Panicle usually with less than 15 spikelets. Lower glume c. 0.75 mm long; upper glume c. 0.9 mm long, 0-nerved. Palea 0-nerved. Stamens 3 ..... *C. madayensis*
- b. Culms tufted. Sheaths firmly clasping the culm. Ligule present, silky hairy. Blades lanceolate. Flagleaf with a blade. Panicle with more than 15 spikelets. Lower glume c. 0.25 mm long; upper glume c. 0.5 mm long, 2-nerved. Palea 2-nerved. Stamens 2 ..... *C. minuta*
- 3a. Panicles few-flowered, very lax. Spikelets 2.5–4 mm long. Lemmas densely bearded at base ..... 4
- b. Panicles many-flowered, mostly contracted and spiciform. Spikelets 1.5–2.5 mm long. Lemmas glabrous at base ..... *C. infirma*
- 4a. Culms slender. Blades flat, linear-lanceolate. Spikelets 3.5–4.0 mm long. Lower glume 1.7–2.0 mm long, 1–3-nerved; upper glume 2.3–2.5 mm long. Upper lemma and palea not keeled, 0- (or 1-)nerved, glabrous or sparsely hairy in the lower half. Anthers 1.5–1.7 mm long ..... *C. perpusilla* var. *nilagirica*
- b. Culms capillary. Blades involute, filiform. Spikelets 2.5–3.0 mm long. Lower glume 1–1.5 mm long, 3–7-nerved; upper glume 1.5–2.0 mm long. Upper lemma and palea 2-keeled, 2-nerved, hairy along the keels and all over the dorsal surface. Anthers 0.8–1(–1.5) mm long ..... *C. perpusilla* var. *perpusilla*

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